AMENDMENTS

In the claims:

Claims 1 to 21 (Canceled).

22. (Currently Amended) A method for screening a ~~depositing a quantity~~ of fluid sample at least suspected of containing a nucleic acid, for said at least suspected nucleic acid, by depositing a quantity of said fluid sample onto a nucleic acid array comprising a plurality of nucleic acids stably attached onto an array surface, said method comprising:

positioning a thermal inkjet head filled with said at least suspected nucleic acid containing fluid sample in opposing relation to said array ~~substrate~~ surface; ~~and~~

actuating said thermal inkjet head in a manner sufficient to expel said quantity of fluid sample onto said array ~~substrate~~ surface to deposit said quantity of fluid sample on said array substrate surface, wherein nucleic acids present in said deposited fluid are capable of hybridizing to their nucleic acid complement; ; and

detecting any binding complexes on said array surface between any nucleic acids present in said fluid sample and any nucleic acids of said array to screen said fluid sample for said at least suspected nucleic acid.

23. (Previously Presented) The method according to Claim 22, wherein said fluid is heated prior to said actuation.

24. (Previously Presented) The method according to Claim 22, wherein an energy pulse of between 1.0 to 100 μJ is supplied to the thermal inkjet head to expel the quantity of fluid.

Claims 25 - 26 (Canceled).

27. (Previously Presented) A method for depositing a quantity of fluid containing a nucleic acid onto a nucleic acid array comprising a plurality of nucleic acids stably attached onto an array surface, said method comprising:

loading said fluid into a thermal inkjet head comprising an orifice and a firing chamber

by contacting said orifice with said fluid in a manner sufficient for said fluid composition to flow through said orifice into said firing chamber;

positioning said thermal inkjet head filled with said fluid in opposing relation to said array surface; and

actuating said thermal inkjet head in a manner sufficient to expel said quantity of fluid onto said array surface to deposit said quantity of fluid on said array surface, wherein nucleic acids present in said deposited fluid are capable of hybridizing to their nucleic acid complement.

28. (Previously Presented) The method according to Claim 27, wherein said method further comprises applying back pressure to said head during said contacting step.

Claims 29 - 30 (Canceled)

31. (Currently Amended) A method for introducing a ~~nucleic acid~~ fluid sample at least suspected of containing a nucleic acid to a nucleic acid to screen said fluid sample for said at least suspected nucleic acid, said method comprising:

positioning a thermal inkjet head filled with said ~~nucleic acid~~ fluid sample in opposing relation to a surface of an array, wherein said array comprises a plurality of nucleic acids stably attached onto said surface;

actuating said thermal inkjet head in a manner sufficient to expel a quantity of said fluid sample onto said array surface wherein nucleic acids present in said deposited fluid are capable of hybridizing to their nucleic acid complement; and

allowing interaction between said fluid sample and said nucleic acid to screen said fluid sample for said at least suspected nucleic acid.

32. (Previously Presented) The method according to Claim 31, wherein an energy pulse of between 1.0 to 100 μJ is supplied to the thermal inkjet head to expel the quantity of fluid.

33. (Previously Presented) The method according to Claim 31, wherein an energy pulse of between 1.5 to 15 μJ is supplied to the thermal inkjet head to expel the quantity of fluid.

34. (Previously Amended) A method for detecting the presence of a nucleic acid in a fluid sample containing said nucleic acid, said method comprising:

positioning a thermal inkjet head filled with said fluid sample in opposing relation to a surface of an array, wherein said array comprises a plurality of nucleic acids stably attached onto said surface and at least one of said nucleic acids specifically hybridizes to said nucleic acid in said fluid sample;

actuating said thermal inkjet head in a manner sufficient to expel a quantity of said fluid sample onto said array surface wherein nucleic acid present in said deposited fluid are capable of hybridizing to their nucleic acid complement; and

detecting the presence of any binding complexes on said array surface between said at least one nucleic acid and said nucleic acid in said fluid sample on said array surface;

whereby the presence of said analyte in said fluid sample is detected.

35. (Previously Presented) The method according to Claim 34, wherein between 1.0 to 100 μJ is supplied to the thermal inkjet head to expel the quantity of fluid.

36. (Previously Presented) The method according to Claim 35, wherein between an energy pulse of 1.5 to 15 μJ is supplied to the thermal inkjet head to expel the quantity of fluid.

37. (Previously Presented) The method according to Claim 34, wherein said method further comprises heating said fluid sample prior to said actuating.

38. (Previously Presented) The method according to Claim 34, wherein said fluid sample comprises a surfactant.

39. (Previously Presented) A method for performing an array-based hybridization assay, said method comprising:

(a) positioning a thermal inkjet head filled with a fluid nucleic acid sample in opposing relation to a surface of an array, wherein said array comprises a plurality of nucleic acids stably associated with said surface;

(b) actuating said thermal inkjet head by supplying an energy pulse of between 1.0 to 100 μJ so as to expel a quantity of said fluid sample onto said array surface to produce a sample contacted

array;

(c) maintaining said sample contacted array under hybridization conditions for a period of time sufficient for any complementary nucleic acids to hybridize to each other;

(d) washing the surface of said array; and

(e) detecting the presence of any double-stranded nucleic acids on said array surface.

40. (Previously Presented) The method according to Claim 39, wherein said method further comprises heating said fluid sample prior to said actuating.

41. (Previously Presented) The method according to Claim 39, wherein said quantity does not exceed 200 pico liters.

42. (Previously Presented) The method according to Claim 39 wherein the energy pulse is between 1.5 to 15 μJ and the fluid sample contains a surfactant.

43. (Previously Presented) The method according to Claim 39 additionally comprising depositing from a thermal inkjet head a quantity of a diluent solution onto a same location on the array as the quantity of sample fluid.

44. (Previously Presented) A method for depositing a quantity of fluid containing a nucleic acid or polypeptide onto an array surface having a plurality of nucleic acids or polypeptides stably associated therewith, said method comprising:

loading said fluid containing nucleic acid or polypeptide into a thermal inkjet head comprising an orifice and a firing chamber by contacting said orifice with said fluid in a manner sufficient for said fluid to flow through said orifice into said firing chamber;

positioning said thermal inkjet head filled with said nucleic acid or polypeptide containing fluid in opposing relation to said substrate; and

actuating said thermal inkjet head in a manner sufficient to expel a quantity of said fluid onto said substrate surface to deposit said quantity of fluid on said substrate surface.

45. (Previously Presented) The method according to Claim 44, wherein said method further comprises applying back pressure to said head during said contacting step.

46. ((Previously Presented) The method according to Claim 44, wherein said fluid is heated prior to said actuation.

47. (Previously Presented) The method according to Claim 44, wherein an energy pulse of between about 1.0 to 100 μJ is supplied to said thermal inkjet head to expel the quantity of fluid.

48. (Previously Presented) The method according to Claim 44, wherein said quantity ranges from about 0.1 to 2000 pico liters.